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SAN DIEGO COUNTY MUNICIPAL STORM WATER PERMIT
REISSUANCE ANALYSIS SUMMARY

California Regional Water Quality Control Board, San Diego Region
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I. INTRODUCTION

Prior to beginning the process for reissuance of the San Diego County Municipal Storm Water Permit (Order No. 2001-01), the California Regional Water Quality Control Board, San Diego Region (Regional Board) has aimed to identify the permitting approach which will best protect water quality for the next permit term while also satisfying the interests of the various stakeholders. It is anticipated that the permitting approach sought by the Regional Board will serve as a starting point which will focus the efforts of the Regional Board and stakeholders during the re-issuance process. The current permit expires on February 21, 2006; therefore it is anticipated that the next permit will be re-issued prior to that date.

This report summarizes the analysis undertaken by the Regional Board to identify its preferred permitting approach for the next storm water permit for San Diego County. The Regional Board's preferred permitting approach for the next permit is identified and discussed in section IV of this report.

II. BACKGROUND

A. Current Regulatory Approach - Order No. 2001-01

Order No. 2001-01 regulates the 21 Phase I municipal storm water Copermittees located within 10 major watersheds of San Diego County. This permit holds the local government accountable for the impacts of its land use decisions on water quality. The permit recognizes that each of the three major stages in the urbanization process (development planning, construction, and the use or operational stage) is controlled by and must be authorized by the local government. Accordingly, the permit focuses on measures that the local government must implement, or require others to implement, to reduce pollutant discharges during each of the three stages of urbanization.

The responsibilities of the Copermittees under Order No. 2001-001, however, are not limited to addressing the water quality impacts of urbanization within their jurisdiction. Each Copermittee is responsible for working with the other Copermittees on water quality issues within their shared watersheds. This is because urban runoff generated in various Copermittee jurisdictions does not follow jurisdictional boundaries, but rather travels through many jurisdictions while flowing through and to receiving waters. Collectively, the Copermittees within a watershed each contribute to the cumulative pollutant load that is conveyed in urban runoff by their interconnected municipal separate storm sewer systems

(MS4s) to the receiving waters. Therefore, each Copermittee has shared responsibility for the impacts of its urbanization on the watershed in which it is located.

The existing permit, by including watershed-based requirements, calls for the Copermittees to address water quality issues on a watershed basis in addition to their jurisdictional activities. The Copermittees are required to identify and prioritize major water quality problems in the watersheds and the likely sources of the problems; develop an implementation schedule of short- and long-term activities necessary to address the highest priority water quality problems; and identify the Copermittee(s) responsible for implementing each activity. Public participation, watershed-based land use planning, education, and long-term effectiveness assessment are also activities which are required on a watershed basis.

B. New Paradigm for Storm Water Permits

In recent years, addressing water quality issues from a watershed perspective has increasingly gained attention. Regarding watershed-based permitting, the United States Environmental Protection Agency (EPA) Watershed-Based NPDES Permitting Policy Statement issued on Jan. 7, 2004 states the following:

EPA continues to support a holistic watershed approach to water quality management. The process for developing and issuing NPDES permits on a watershed basis is an important tool in water quality management. EPA believes that developing and issuing NPDES permits on a watershed basis can benefit all watershed stakeholders, from the NPDES permitting authority to local community members. A watershed-based approach to point source permitting under the NPDES program may serve as one innovative tool for achieving new efficiencies and environmental results. EPA believes that watershed-based permitting can:

- *lead to more environmentally effective results;*
- *emphasize measuring the effectiveness of targeted actions on improvements in water quality;*
- *provide greater opportunities for trading and other market based approaches;*
- *reduce the cost of improving the quality of the nation's waters;*
- *foster more effective implementation of watershed plans, including total maximum daily loads (TMDLs); and*
- *realize other ancillary benefits beyond those that have been achieved under the Clean Water Act (e.g., facilitate program integration including integration of Clean Water Act and Safe Drinking Water Act programs).*

Watershed-based permitting is a process that ultimately produces NPDES permits that are issued to point sources on a geographic or watershed basis. In establishing point source controls in a watershed-based permit, the permitting authority may focus on watershed goals, and consider multiple pollutant sources and stressors, including the level of nonpoint source control that is practicable. In general, there are numerous

permitting mechanisms that may be used to develop and issue permits within a watershed approach.

This EPA guidance is in line with State Water Resources Control Board (SWRCB) and Regional Board watershed management goals. For example, the SWRCB's Urban Runoff Technical Advisory Committee (TAC) recommends watershed-based water quality protection, stating "Municipal permits should have watershed specific components." The TAC further recommends that "All NPDES permits and Waste Discharge Requirements should be considered for reissuance on a watershed basis."

In addition, the San Diego Region Basin Plan states that "public agencies and private organizations concerned with water resources have come to recognize that a comprehensive evaluation of pollutant contributions on a watershed scale is the only way to realistically assess cumulative impacts and formulate workable strategies to truly protect our water resources. Both water pollution and habitat degradation problems can best be solved by following a basin-wide approach."

In light of EPA's policy statement and the SWRCB's and Regional Board's watershed management goals, the Regional Board seeks to expand watershed management in the regulation of urban runoff. Watershed-based MS4 permits can provide for more effective receiving water quality protection. The entire watershed for the receiving water can be assessed, allowing for critical areas and practices to be targeted for corrective actions. Known sources of pollutants of concern can be investigated for potential water quality impacts. Problem areas can then be addressed, leading to eventual improvements in receiving water quality. Management of urban runoff on a watershed basis allows for specific water quality problems to be targeted so that efforts result in maximized water quality improvements.

C. Other Watershed-based Storm Water Permitting Efforts

Surprisingly, not all the Regional Boards in California have watershed management elements in the MS4 permits that they have adopted. Equally surprising, the Regional Board found that some storm water permits in other parts of the country that are considered watershed-based permits are not as comprehensive, prescriptive, and as advanced in terms of a watershed approach as the current storm water permit for San Diego County. The existing storm water permit already is a progressive, watershed-based permit compared to some other so-called watershed-based permits in place elsewhere.

Of particular note, however, the Oregon Department of Environmental Quality has recently issued a permit which collectively regulates four wastewater facilities and a MS4 located within a single watershed. This permit allows for trading of pollutant credits among point sources covered by the permit in an attempt to bring the entire watershed into compliance with water quality standards. Issuance of this permit was eased by the fact that all point sources within the watershed are owned by a single entity.

III. METHODOLOGY

A. Initial Screening

The Regional Board started its evaluation of the reissuance of the next storm water permit for San Diego County by identifying various permitting approaches which can be pursued. Six representative alternatives were initially identified: 1) continue with current MS4 permit; 2) enhance the Watershed Urban Runoff Management Program (WURMP) section of the current MS4 permit; 3) establish one MS4 permit for the San Diego Region; 4) establish one MS4 permit for each permittee; 5) establish MS4 permits based upon current TMDLs/impaired waterbodies; and 6) establish permits based on watersheds. These alternatives were intended to encompass the broad range of permit options available while not considering all possible permutations of each alternative.

These six alternatives were then preliminarily screened based on such basic factors as meeting Regional Board goals, watershed management effectiveness, and ease of implementation. The initial screening resulted in the elimination of several of the alternatives, due to their failure to forward the Regional Board's general goal of addressing water quality problems on a watershed basis. Other alternatives were eliminated due to issues such as difficulty in administration or lack of adequate supporting data.

B. Options Analyzed

Following this initial screening of the alternatives, two alternatives for municipal storm water regulation were identified which could best promote watershed management within the region and support stakeholder interests, while also meeting other program constraints. These two alternatives were considered for this analysis: 1) establish a MS4 permit for San Diego County with an enhanced watershed requirement section and 2) establish MS4 permits in San Diego County based on watersheds for as many as eight watersheds. These alternatives are described in more detail below.

<u>Alternative A</u>

Alternative A is essentially the current San Diego County MS4 Permit with an enhanced and expanded WURMP section. This alternative would continue to include a Jurisdictional Urban Runoff Management Program (JURMP) component, which would serve as a baseline level of effort that all Copermittees must implement across all watersheds. This JURMP section could potentially be slightly less stringent than the current JURMP section, in order to compensate for the expanded WURMP section. The WURMP section would contain increased detail and specificity, identifying water quality problems in each watershed, together with a focus on best management practice (BMP) requirements targeting the identified water quality problems. Formalized participation in WURMP efforts would also be required.

Alternative B

Alternative B is the regulation of San Diego County MS4s through the issuance of several permits based on watersheds or groups of watersheds. These permits would not include a JURMP section; instead, JURMP-type requirements would be incorporated into the WURMP sections of the permits. In these permits, each watershed would have a different set of requirements for each of its land use types (commercial, industrial, residential, etc.) These requirements would be based on the prominent water quality problems within the watershed. Since each watershed would have different requirements, there would not be a set of baseline requirements required of all Copermittees in all watersheds. Formalized participation in WURMP efforts would also be required.

C. Factors to be Considered in the Analysis

The Regional Board identified factors to be used to assess the two permit alternatives. The factors represent different issues which can be affected by the next San Diego County storm water permit. For ease during analysis, these factors were grouped under the following key categories: 1) Water Quality; 2) Regional Board; 3) Copermittees; and 4) Other Stakeholders. The factors considered in the analysis are described below, together with information on the premises and inferences which were necessary to conduct the analysis.

Water Quality

For the Water Quality category, the Regional Board evaluated each of the two permit alternatives in terms of the following factors: ability to obtain short-term water quality improvements, ability to obtain long-term water quality improvements, ability to facilitate efforts to address water quality problems which go beyond storm water discharges, ability to improve pollution prevention programs, and ability to address water quality impairments without TMDL implementation. Inferences that were used when evaluating the factors for each alternative were based on the Regional Board's knowledge of the implementation and effectiveness of current storm water programs. This included consideration of compliance evaluation findings, as well as information found in annual reports and monitoring reports.

Regional Board

Under this category, the Regional Board evaluated the potential impact of the two permit alternatives on Regional Board resources, programs and activities, as well as the two permit alternatives' consistency with SWRCB and Regional Board plans and policies. The evaluation of the two permit alternatives' impacts on Regional Board resources focused on the time and effort it would take to prepare the permit(s), conduct report reviews, conduct inspections, investigate complaints, handle cases, manage the program, and conduct enforcement under either permit alternative. In determining Regional Board staff time needed for the above mentioned tasks, unit cost factors developed by the SWRCB were used.

Other factors affecting the Regional Board which were assessed include each permit alternative's effect on Regional Board institutional resistance, Regional Board overall efficiency, Regional Board staff organization, Regional Board consistency with its Strategic Plan, Regional Board ability to address water quality impairments without TMDL implementation, Regional Board GIS compatibility, Regional Board compliance assurance, other Regional Board programs, potential watershed-based NPDES permits, and statewide consistency. Evaluations of these factors were based on informal staff surveys and interviews and the collective experience of the Regional Board.

Copermittees

The Copermittee category assessed the Copermittees' likely acceptance of either alternative, potential impacts to Copermittee resources, regional and statewide consistency, permit flexibility, and Copermittee willingness to collaborate. Inferences that were necessary when evaluating the factors for each permit alternative were based on current Copermittee behavior and program implementation. Consideration was also given to the ability of a single Copermittee to develop multiple and different storm water regulations for each watershed within their jurisdiction; the desire on the part of Copermittees for consistent storm water programs; and the current financial climate.

Other Stakeholders

The Other Stakeholders category (all interested parties other than the Copermittees) assessed each of the two alternatives' potential impacts on stakeholder involvement, stakeholder support, and ability to attract financial assistance to the region. The Other Stakeholders category included consideration of environmental, watershed, construction and industry, political, and public stakeholder groups. Inferences that were used when evaluating the factors for each alternative were based on currently understood stakeholder activities and positions.

D. Analysis

Each of the two permit alternatives were assessed for each factor discussed above. Based on this assessment, it was attempted to identify a preferred alternative for each factor when adequate information was known. However, it is important to note that it was sometimes difficult to identify a preferred alternative for some factors, due to lack of information or similarity between the two permit alternatives for a given factor.

Once the preferred alternative was identified for each factor where possible, each of the two permit alternatives was assessed to determine how often it was identified as the preferred alternative. Based on the number of times each permit alternative was identified as the preferred alternative, as well as the relative importance of the factors for which an alternative was preferred, a final overall preferred alternative was identified (discussed below). Due to occasional lack of adequate information and factors for which the two permit alternatives were largely indistinguishable, the final preferred alternative

was identified based upon those factors where adequate information existed and a relatively clear distinction between the alternatives was possible.

IV. CONCLUSIONS

An overall review of the various factors which were considered indicates that Alternative A is the most appropriate permit alternative for the next San Diego County storm water permit. Alternative A is the permitting approach which will continue the use of the current jurisdictional requirements, but will also expand the watershed-based requirements of the permit. Alternative A was identified as the preferred permitting approach for more factors than Alternative B. In addition, Alternative A was more frequently identified as the preferred permit alternative for factors which were considered most important.

In terms of the Water Quality category of factors, Alternative A is the most appropriate permit alternative over the short-term, while Alternative B appears to be the more appropriate permit alternative long-term. Alternative A is also the best permit alternative for both the Regional Board and Copermittee categories of factors. However, for the Other Stakeholder category of factors, Alternative B appears to be the more appropriate permit alternative. These findings are discussed below.

A. Water Quality

Of the factors considered which pertain to water quality, the key factors considered were the two permit alternatives' potential impacts on short- and long-term water quality. Alternative A promises to result in greater short term water quality improvements, while Alternative B over a longer time frame would be expected to result in greater long-term water quality benefits.

Both Alternatives A and B, in implementing a watershed approach in the implementation of storm water programs, are expected to result in water quality improvements within watersheds. Also, both permit alternatives are expected to result in permanent, long-term improvements. The advantage of Alternative A is that current ongoing efforts by Copermittees to improve water quality most likely will proceed uninterrupted. Copermittees under Alternative A will be required to expand and improve existing watershed efforts, which will allow for program continuity. Implementation of Alternative B, on the other hand, would likely divert Copermittee resources away from some current work to abate storm water pollution while the Copermittees reorganize their programs based on watersheds. For these reasons, it is anticipated that Alternative A is the best permit approach in terms of short-term water quality.

Over the long-term, the Alternative B watershed permits are believed to have greater potential for water quality improvements due to their ability to focus directly on specific water quality problems. However, implementation of Alternative A at this time does not preclude the implementation of Alternative B as a long-term step in the future. In fact, Alternative A can serve as a logical interim step before implementing watershed-based

permits. In addition, while Alternative B could have a more overall positive long-term impact on water quality than Alternative A, the Regional Board is not as confident about this as we are about the short-term benefits associated with Alternative A. It is also important to note that Alternative A includes significant expansion and improvement of existing watershed-based requirements by simply incorporating these additional watershed-based requirements into the current regulatory framework.

Moreover, the Regional Board can continue to assess watershed permits as a long-term strategy while implementing the interim step of expanded watershed-based permit requirements found in Alternative A. For example, Copermittee monitoring programs are currently watershed-based, and continued monitoring over the next permit cycle may provide sufficient data to determine trends and issues that should be addressed in future watershed-based permits.

Therefore, the Regional Board finds that Alternative A is the most prudent permitting approach for the protection of water quality at this time.

B. Regional Board

Of the factors considered which pertain to the Regional Board, the key factors considered dealt with the two permit alternatives' potential impacts on Regional Board resources. Alternative A is the preferred permitting approach because it is anticipated that it will result in Regional Board resources being used more efficiently. It is estimated that it will cost the Regional Board an additional 0.75 to 2.1 PYs to prepare the multiple watershed permits necessary under Alternative B versus the single permit under Alternative A. In addition, it is estimated that management of the permits under Alternative B will cost an additional 0.8 PYs per year. These additional resources necessary to prepare and manage the permits will reduce Regional Board efforts in report reviews, inspections, complaint investigations, and enforcement activities in the municipal, construction, and industrial storm water programs.

While implementation of Alternative A is expected to be more efficient in the short term, Alternative B could be more efficient in the long run depending upon its effectiveness. For example, Alternative B could facilitate TMDL implementation or facilitate development of comprehensive watershed-based NPDES permits that regulate all point source discharges within given watersheds. However, these potential future benefits are outweighed by the more likely near-term benefits of Alternative A. Alternative A does not necessitate a reduction in current Regional Board compliance activities, which would be detrimental to maintaining the progress made by the Copermittees in developing storm water management programs. In addition, Alternative A allows for the continuance of providing important feedback to the Copermittees that results from report reviews, inspections, attending meetings, and enforcement actions. These activities are critical at this point in the logical growth of the storm water regulatory program.

For these reasons, Alternative A is the best permitting approach for the Regional Board at this time.

C. Copermittees

Alternative A allows Copermittees to continue the efforts they started with Order No. 2001-01; limits the number of significant changes to their programs; allows them to still be treated equally; and allows them to apply the same regulations throughout their jurisdictions. Copermittees are still working on implementing all of the requirements of the current storm water permit and may be more receptive to an enhanced WURMP section rather than a watershed permit. For these reasons, Alternative A appears to be the permitting approach which would meet Copermittee needs and receive their support.

D. Other Stakeholders

Alternative B appears to be the Alternative which best meets the interests of other stakeholders (all interested parties other than the Copermittees). Alternative B would most likely generate more stakeholder interest, because of its potential to draw interest to issues typically outside of storm water. Though it is difficult to determine which approach would actually receive greater support from stakeholders as a whole, Alternative B would most likely facilitate other Regional Board interests and goals. For example, generation of funding for water quality projects in the region could be enhanced under Alternative B. While the benefits of Alternative B regarding other stakeholders could be significant, Alternative A also provides important benefits for other stakeholders, though perhaps to a lesser extent. In light of this, the benefits of Alternative B for other stakeholders, while important, are found to be less significant than the benefits of Alternative A for the Water Quality, Regional Board, and Copermittee categories of factors.

V. RECOMMENDATIONS

The Regional Board should implement Alternative A for the next permit cycle. This will increase the focus on watershed-based water quality problems and facilitate implementation of Alternative B in the future.

1. If Alternative A is implemented, the Regional Board needs to significantly change how the Regional Board currently oversees the municipal storm water program. The Regional Board's focus should significantly shift from, but not ignore, JURMP implementation to an enhanced WURMP implementation.

2. For the current San Diego County MS4 permit's reissuance, the Regional Board could use the application process as an opportunity to develop watershed-based permit conditions, regardless of which alternative is selected.

3. If a group of Copermittees within a watershed wish to pursue a watershed-based permit for their specific watershed, the Regional Board should attempt to accommodate their request. In such an instance, the resultant watershed-based permit could serve as a pilot permit which could be evaluated for future watershed

permitting efforts.

4. The Regional Board should, within the next permit cycle, evaluate the progress made by the Copermittees in implementing the enhanced WURMP-based programs and determine whether the Alternative B approach is a viable approach for all or some of the Copermittees in the future.